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INVENTOR : AMANO HIROFUMI;

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TITLE : PHOTOCURABLE ADHESIVE COMPOSITION

ABSTRACT : PROBLEM TO BE SOLVED: To obtain a photocurable adhesive sheet which exhibits sufficient wetting properties and sufficient early-stage adhesion to an adherend.

SOLUTION: This compsn. comprises 100 pts.wt. liq. photopolymerizable resin having a cationically polymerizable group and a viscosity of 1-30,000cp as measured with a Brookfield viscometer at 23°C, 40-500 pts.wt. solid photopolymerizable resin having a cationically polymerizable group and a softening point of 40-200°C, and a cathionic photopolymn. initiator.

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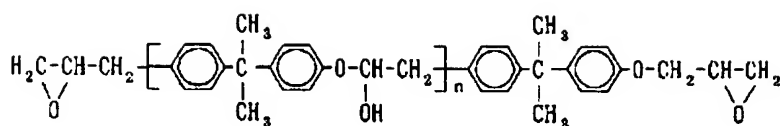
兵庫県尼崎市潮江5-8-6 積水化学工業株式会社内

(54) 【発明の名称】 光硬化性接着剤組成物

(57) 【要約】

【課題】 被着体表面への十分な濡れ性、及び十分な初期接着性を有する光硬化性接着シートを得る。

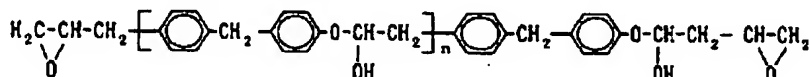
【解決手段】 分子内にカチオン重合性基を有し、かつB型粘度計で測定した23℃での粘度が1~30000 cpsの液状光重合性樹脂(A)100重量部、分子内にカチオン重合性基を有し、かつ軟化点40℃~200℃の固形光重合性樹脂(B)40~500重量部、及び光カチオン重合開始剤(C)からなる光硬化性接着剤組成物。



【0012】で表され、市販品として、「エピコート827」(油化シェルエポキシ社製、粘度9000~11000cps)、「エピコート828」(油化シェルエポキシ社製、粘度12000~15000cps)、「エポトート-115」(東都化成社製、粘度700~1100cps)、「アデカレジンEP-4100」

(旭電化社製、粘度12000~15000cps)等が挙げられ、また、上記ビスフェノールF系エポキシ樹脂は、下記一般式

【0013】
【化2】



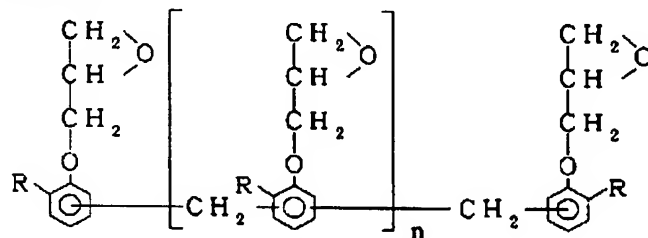
【0014】で表され、市販品として、「エポトートYDF-8170」(東都化成社製、粘度500~2000cps)、「アデカレジンEP-4901」(旭電化社製、粘度2000~4000cps)等が挙げられる。さらに、環式脂肪族系エポキシ樹脂としては、ビニルシクロヘキサジオキサイドが、グリシジルエステル系エポキシ樹脂として、フタル酸ジグリシジルエステル、テトラヒドロフタル酸ジグリシジルエステル等が挙げられ、グリシジルアミン系エポキシ樹脂として、N、N-ジグリシジルアニリン、テトラグリシジルアミノジフェニルメタン等が挙げられる。

【0015】上記固形光重合性樹脂(B)は、分子内にカチオン重合性基を有し、かつ軟化点40~200℃の

ものである。上記カチオン重合性基は、光カチオン重合が可能な重合性基であれば特に限定されるものではなく、また、軟化点は、低くなると常温で固形状であることが難しく、軟化点の低い樹脂を用いるとシートのハンドリング性が十分得られにくくなり、また高くなると初期接着性が十分得られにくくなるので、40~200℃であり、好ましくは40~150℃である。

【0016】上記固形光重合性樹脂(B)のとしては、例えば、ノボラック系エポキシ樹脂、ナフタレン系エポキシ樹脂が挙げられ、上記ノボラック系エポキシ樹脂としては、例えば、下記一般式

【0017】
【化3】



【0018】で表されるものが挙げられ、市販品として「エポトートYDCN-701」(軟化点60~70℃)、「エポトートYDCN-703」(軟化点75~85℃)、「エポトートYDCN-704」(軟化点85~95℃)以上、東都化成社製、「エピコート1001」(軟化点64℃)、「エピコート1055」(軟化点93℃)、「エピコート1004F」(軟化点103℃)以上、油化シェルエポキシ社製などが挙げられる。

【0019】本発明において用いられる固形光重合性樹脂(B)は、40℃~200℃の軟化点を有する。軟化点がこれより低いと、室温において固形状であることが難しく、軟化点の低い樹脂を用いると、シートのハン

ドリング性が不十分となる。

【0020】固形光重合性樹脂(B)は、液状光重合性樹脂(A)100重量部に対し、40~500重量部、より好ましくは100~300重量部用いられる。固形光重合性樹脂(B)の配合量が少なすぎると、シートのハンドリング性が不十分となり、逆に配合量が多すぎると、初期接着性が不十分となる場合がある。

【0021】本発明において用いられる光カチオン重合開始剤は、カチオン重合を開始させることができるものであれば特に限定されるものではなく、例えば、下記の式で表されるような芳香族ジアゾニウム塩、芳香族ヨードニウム塩、芳香族スルホニウム塩等が挙げられる。

しては、通常は内部にまで十分に光を進入させるために波長ピーク350～400nmのものが好ましく、より好ましくは波長ピーク360～380nmのものである。また、光強度としては10～300mW/cm²が好ましく、より好ましくは25～100mW/cm²であり、照射時間は1～10分間が好ましく、より好ましくは3～6分間である。

【0034】また、貼着方法もしくは施工方法としては、まず被着体に上記シート状に成形した光硬化性接着剤組成物を貼付した後、上記条件で紫外線等の光を照射し、その後もう一方の被着体に貼付する方法が挙げられる。

【0035】本発明の光硬化性接着剤組成物においては、凝集力が低い液状光重合性樹脂(A)を用い、これを固形光重合性樹脂(B)に所定の割合で混合して用いているので、適度な凝集状態にすることができる。従っ

<実施例1>

| | | 種 類 | 商 品 名 | 物性等 | 重 量 部 数 |
|-------|----|----------------------|-----------------------------|---------------------------|---------|
| 樹脂組成物 | 液状 | ビスフェノールA系エポキシ樹脂 | 旭電化社製 アデカレジ EP-4100 | 粘度 約12000～ 15000cps | 100 |
| | 固形 | ノボラック系エポキシ樹脂 | 東都化成社製 エポトート YDCN-701 | 軟化点 60～70℃ | 200 |
| 重合開始剤 | | 6フッ化アンチモン系芳香族スルホニウム塩 | 旭電化社製 アデカオプトマー SP-170 | | 3.0 |

【0038】実施例2

表2に示す液状光重合性樹脂、固形光重合性樹脂、及び重合開始剤を、表2に示す配合割合で混合した。この混合組成物を、150℃に加熱して十分に攪拌した後、厚み100μmのポリエチレンテレフタレートフィルムに塗布し、厚み300μmの光硬化性接着剤組成物のシー

<実施例2>

| | | 種 類 | 商 品 名 | 物性等 | 重 量 部 数 |
|-------|----|----------------------|-----------------------------|---------------------------|---------|
| 樹脂組成物 | 液状 | ビスフェノールA系エポキシ樹脂 | 油化シェル社製 エビコート 828 | 粘度 約12000～ 15000cps | 100 |
| | 固形 | ノボラック系エポキシ樹脂 | 東都化成社製 エポトート YDCN-701 | 軟化点 60～70℃ | 300 |
| 重合開始剤 | | 6フッ化アンチモン系芳香族スルホニウム塩 | 旭電化社製 アデカオプトマー SP-170 | | 4.0 |

【0040】比較例

表3に示す液状光重合性樹脂、ゲル化剤及び重合開始剤を、表3に示す配合割合で混合した。この混合組成物を、150℃に加熱して十分に攪拌した後、厚み100μmのポリエチレンテレフタレートフィルムに塗布し、厚み300μmの光硬化性接着剤組成物のシートを得

て、被着体への良好な濡れ性、及び初期接着性を得ることができる。

【0036】

【発明の実施の形態】

実施例1

表1に示す液状光重合性樹脂、固形光重合性樹脂、及び重合開始剤を、表1に示す配合割合で混合した。この混合組成物を、150℃に加熱して十分に攪拌した後、厚み100μmのポリエチレンテレフタレートフィルムに塗布し、厚み300μmの光硬化性接着剤組成物のシートを得た。また、上記混合組成物を厚み250μmで坪量300g/cm²のガラスクロスに含浸し、厚さ300μmのガラスクロス含浸の光硬化性接着剤組成物のシートを得た。

【0037】

【表1】

トを得た。また、上記混合組成物を厚み250μmで坪量300g/cm²のガラスクロスに含浸し、厚さ300μmのガラスクロス含浸の光硬化性接着剤組成物のシートを得た。

【0039】

【表2】

た。また、上記混合組成物を厚み250μmで坪量300g/cm²のガラスクロスに含浸し、厚さ300μmのガラスクロス含浸の光硬化性接着剤組成物のシートを得た。

【0041】

【表3】

【図4】本発明に従う実施例における初期接着性及び経時接着力の評価方法を説明するための側面図。

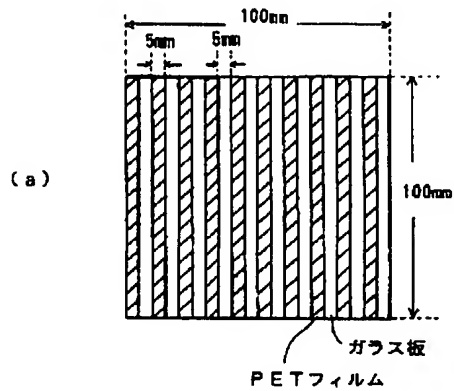
【符号の説明】

1、3…SUS箔

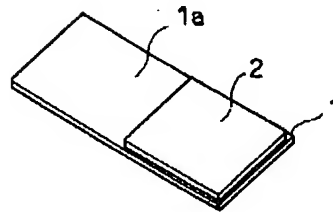
1a、3a…SUS箔の研磨面

2…光硬化性接着剤組成物のシート

【図1】



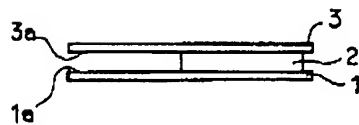
【図2】



【図3】



【図4】



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1. This document has been translated by computer. So the translation may not reflect the original precisely.
 2. **** shows the word which can not be translated.
 3. In the drawings, any words are not translated.
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CLAIMS

[Claim(s)]

[Claim 1] (A) intramolecular -- cationic polymerization -- a sex -- a machine -- having -- and -- a Brookfield viscometer -- having measured -- 23 -- degree C -- viscosity -- one - 30000 -- cps -- it is -- liquefied -- photopolymerization -- a sex -- resin -- 100 -- weight -- the section -- (-- B --) -- intramolecular -- cationic polymerization -- a sex -- a machine -- having -- and -- softening temperature -- 40 -- degree C - 200 -- degree C -- a solid -- photopolymerization -- a sex -- resin -- 40 - 500 -- weight -- the section -- and -- (-- C --) -- light -- a cationic initiator -- from -- becoming -- a photoresist -- adhesives -- a constituent .

[Claim 2] The photoresist adhesives constituent according to claim 1 characterized by said cationic polymerization nature machine being an optical cationic polymerization nature epoxy group in one [at least] resin of said liquefied photopolymerization nature resin (A) and said solid photopolymerization nature resin (B).

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to a photoresist adhesives constituent.

[0002]

[Description of the Prior Art] In recent years, since the adhesive sheet and tape using a photo-setting resin can simplify the complicated and uneven activity of spreading of adhesives, and can improve work environment and can improve productivity, they attract attention. Such a photoresist adhesion sheet processes the resinous principle of photopolymerization nature the shape of a sheet, and in the shape of a tape, stiffens the constituent of the adhesion sheet by optical exposure, and demonstrates an adhesive property. From a viewpoint that adhesion to adherend weak to heating and a heating process are suitable for adhesion processing in very difficult construction, even if it compares such a photoresist adhesion sheet with the adhesion sheet of the heat-curing mold using thermosetting resin, it has the big advantage.

[0003] In a photoresist adhesion sheet, it is important to realize the both sides of "the handling nature of a sheet" and "the wettability to adherend" to coincidence. That is, in order to realize handling nature of a sheet, the constituent of an adhesion sheet needs to have a certain hardness more than fixed at the room temperature. However, if the constituent of an adhesion sheet comes to have a certain amount of hardness in a room temperature, it will be in the inclination which runs short of the wettability on the front face of adherend, and the final interface adhesive property on the front face of adherend will become inadequate.

[0004] The approach of fabricating an adhesion sheet with the collapsibility jelly-like

object which added and formed the gelling agent in the liquefied photo-setting resin constituent in JP,6-285724,A as an approach of solving such a problem is indicated. According to this official report, by using such a collapsibility jelly-like object as a constituent of an adhesion sheet, the handling nature of a sheet and the wettability to adherend may be compatible, and the purport publication is carried out.

[0005]

[Problem(s) to be Solved by the Invention] However, by the approach by the above-mentioned official report, in order to raise the handling nature of a sheet by gelling a resin constituent, there was a problem that the wettability on the front face of adherend or flattery nature was still inadequate, and sufficient initial adhesive property could not be acquired.

[0006] The purpose of this invention is in a Prior art to offer the photoresist adhesives constituent which was not able to be realized and which has sufficient wettability and sufficient initial adhesive property on the front face of adherend.

[0007]

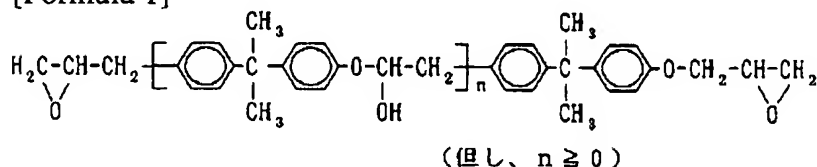
[Means for Solving the Problem] this invention -- a photoresist -- adhesives -- a constituent -- intramolecular -- cationic polymerization -- a sex -- a machine -- having -- and -- a Brookfield viscometer -- having measured -- 23 -- degree C -- viscosity -- one - 30000 -- cps -- it is -- liquefied -- photopolymerization -- a sex -- resin -- (-- A --) -- 100 -- weight -- the section -- intramolecular -- cationic polymerization -- a sex -- a machine -- having -- and -- softening temperature -- 40 -- degree C - 200 -- degree C - - a solid -- photopolymerization -- a sex -- resin -- (-- B --) -- 40 -- 500 -- weight -- the section -- and -- light -- a cationic initiator -- (-- C --) -- from -- becoming -- things -- the description -- ** -- carrying out -- **** -- .

[0008] The viscosity in 23 degrees C which the above-mentioned liquefied photopolymerization nature resin (A) has a cationic polymerization nature machine in intramolecular, and was measured by the Brookfield viscometer is 1-30000cps. Since fabricating in the shape of a sheet may become difficult if the above-mentioned cationic polymerization nature machine is a polymerization nature machine in which optical cationic polymerization is possible, it is not limited especially and viscosity is too high, the viscosity in 23 degrees C measured by the Brookfield viscometer is 1-30000cps, and is 1-20000cps preferably.

[0009] As the above-mentioned liquefied photopolymerization nature resin (A), although glycidyl ether system epoxy resins, such as the bisphenol A system epoxy resin, a bisphenol F system epoxy resin, and a halogenation epoxy resin, a ring type aliphatic series system epoxy resin, a glycidyl ester system epoxy resin, a glycidyl amine system epoxy resin, a dimethylamino styrene polymer, an alpha-methyl-styrene polymer, an isobutyl vinyl ether polymer, p-methoxy styrene polymer, etc. are mentioned, an epoxy resin is suitably used in that high adhesive strength is obtained, for example.

[0010] As the above-mentioned bisphenol A system epoxy resin, it is the following general formula [0011].

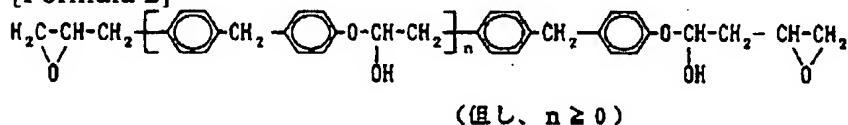
[Formula 1]



[0012] it comes out and expresses -- having -- as a commercial item -- "Epicoat 827"

(oil-ized shell epoxy company make --) the viscosity of 9000-11000cps, and "Epicoat 828" (oil-ized shell epoxy company make --) the viscosity of 12000-15000cps, and "EPO TOTO -115" (Tohto Kasei Co., Ltd. make --) The viscosity of 700-1100cps, "ADEKA resin EP-4100" (the Asahi electrification company make, viscosity of 12000-15000cps), etc. are mentioned, and the above-mentioned bisphenol F system epoxy resin is the following general formula [0013].

[Formula 2]

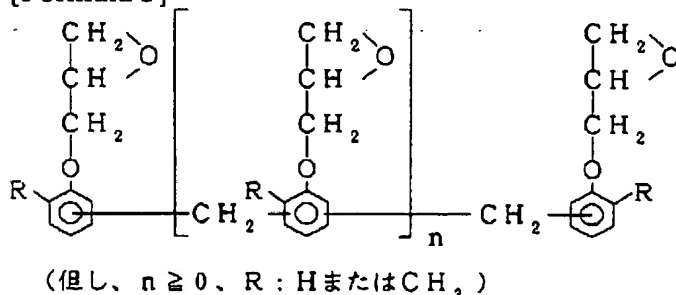


[0014] It comes out, and it is expressed and "EPO TOTO YDF-8170" (the Tohto Kasei Co., Ltd. make, viscosity of 500-2000cps), "ADEKA resin EP-4901" (the Asahi electrification company make, viscosity of 2000-4000cps), etc. are mentioned as a commercial item. Furthermore, vinyl cyclohexane dioxide is mentioned as a ring type aliphatic series system epoxy resin, phthalic-acid diglycidyl ester, tetrahydrophthalic acid diglycidyl ester, etc. are mentioned as a glycidyl ester system epoxy resin, and N and N-diglycidyl aniline, tetraglycidyl ether amino diphenylmethane, etc. are mentioned as a glycidyl amine system epoxy resin.

[0015] The above-mentioned solid photopolymerization nature resin (B) has a cationic polymerization nature machine in intramolecular, and is the thing of 40-200 degrees C of softening temperatures. Since an initial adhesive property will become that it is sufficiently hard to be obtained if it is not limited especially if the above-mentioned cationic polymerization nature machine is a polymerization nature machine in which optical cationic polymerization is possible, the handling nature of a sheet will become is sufficiently hard to be obtained if it is difficult for it to be a solid configuration in ordinary temperature when softening temperature becomes low, and the low resin of softening temperature is used, and it becomes high, it is 40-200 degrees C, and is 40-150 degrees C preferably.

[0016] As that of the above-mentioned solid photopolymerization nature resin (B), a novolak system epoxy resin and a naphthalene system epoxy resin are mentioned, and it is the following general formula [0017] as the above-mentioned novolak system epoxy resin, for example.

[Formula 3]



[0018] It comes out and what is expressed is mentioned. As a commercial item "EPO TOTO YDCN-701" (60-70 degrees C of softening temperatures), More than "EPO TOTO YDCN-703" (75-85 degrees C of softening temperatures), and "EPO TOTO YDCN-704" (85-95 degrees C of softening temperatures) Oil-ized shell epoxy company make etc. is mentioned more than the Tohto Kasei Co., Ltd. make, "Epicoat 1001" (64 degrees C of softening temperatures), "Epicoat 1055" (93 degrees C of

softening temperatures), and "Epicoat 1004F" (103 degrees C of softening temperatures).

[0019] The solid photopolymerization nature resin (B) used in this invention has 40 degrees C - 200 degrees C softening temperature. If softening temperature is lower than this, it will be difficult for it to be a solid configuration and the low resin of softening temperature will be used in a room temperature, the handling nature of a sheet will become inadequate.

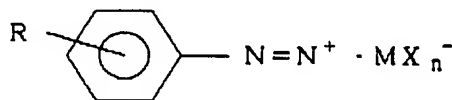
[0020] solid photopolymerization nature resin (B) -- the liquefied photopolymerization nature (resin A) 100 weight section -- receiving -- the 40 - 500 weight section -- more -- desirable -- 100 - 300 weight *****. If there are too few loadings of solid photopolymerization nature resin (B), the handling nature of a sheet will become inadequate, and if there are too many loadings conversely, an initial adhesive property may become inadequate.

[0021] It is not limited especially if the optical cationic initiator used in this invention can make cationic polymerization start, and aromatic series diazonium salt which is expressed with the following formula for example, aromatic series iodonium salt, aromatic series sulfonium salt, etc. are mentioned.

[0022]

[Formula 4]

・芳香族ジアゾニウム塩



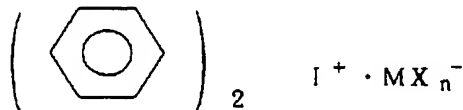
R : アルキル基

(MX_n : BF₄、PF₆、AsF₆、SbF₆ 等が挙げられる。)

[0023]

[Formula 5]

・芳香族ヨードニウム塩

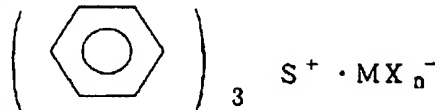


(MX_n : BF₄、PF₆、AsF₆、SbF₆ 等が挙げられる。)

[0024]

[Formula 6]

・芳香族スルホニウム塩

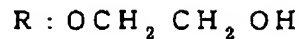
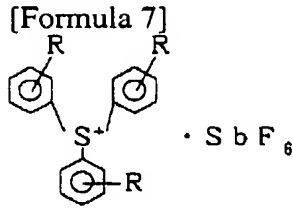


(MX_n : BF₄、PF₆、AsF₆、SbF₆ 等が挙げられる。)

[0025] Moreover, specifically, "ADEKAOPUTOMA SP-170" etc. expressed with the following general formula as 6 antimony-fluoride system aromatic series sulfonium salt is mentioned.

[0026]

[Formula 7]



[0027] As an addition of an optical cationic initiator, 0.5 - 3.0 weight section extent is common to a total of 100 weight sections of liquefied photopolymerization nature resin (A) and solid photopolymerization nature resin (B).

[0028] Although the photoresist adhesives constituent of this invention contains above-mentioned liquefied photopolymerization nature (resin A) solid photopolymerization nature resin (B) and an above-mentioned optical cationic initiator (C), the resin which uses acrylic ester as a principal component, such as a polymer and natural rubber, may contain it if needed. Moreover, other additives may contain if needed.

[0029] The approach of arbitration may be adopted, for example, after the manufacture approach of the above-mentioned photoresist adhesives constituent heats and fuses the above-mentioned liquefied photopolymerization nature resin (A) and solid photopolymerization nature resin (B) at 50-300 degrees C, it is acquired by carrying out stirring mixing at homogeneity using a mixer. Moreover, as heating melting temperature, 100-200 degrees C is desirable.

[0030] Moreover, the photoresist adhesives constituent in this invention is used, fabricating it in the shape of a sheet generally, or infiltrates core materials, such as glass fabrics, a carbon cross, and various kinds of nonwoven fabrics, and is fabricated in the shape of a sheet. Moreover, the photoresist adhesives constituent of this invention may be fabricated and processed for example, on an exfoliation sheet.

[0031] In this invention, although liquefied photopolymerization nature resin (A) and solid photopolymerization nature resin (B) are mixed, these resin is in a compatible condition, or it is desirable to be mixed in the state of very good distribution.

[0032] An optical cationic polymerization reaction advances slowly because the photoresist adhesives constituent of this invention generally irradiates light. After it irradiates light at a sheet-like object since this is a dark reaction in case it does not need to irradiate light till polymerization termination and pastes up a sheet-like object for example, by making adherend paste immediately, the postcure reaction can progress and it can acquire a desired adhesive property. Moreover, light may be irradiated after pasting adherend.

[0033] In this case, as light wave length, although suitably adjusted by the activity of a photoinitiator, the activity of the photopolymerization nature resin used, etc., in order that exposure conditions, such as wavelength of the light irradiated, reinforcement, and irradiation time, may make light usually fully advance even into the interior, its thing of 350-400nm of wavelength peaks is desirable, and they are the thing of 360-380nm of wavelength peaks more preferably. moreover -- as optical reinforcement -- 10 - 300 mW/cm² desirable -- more -- desirable -- 25 - 100 mW/cm² it is -- as for irradiation time, for 1 - 10 minutes is desirable, and it is for 3 - 6 minutes more preferably.

[0034] Moreover, after sticking on adherend the photoresist adhesives constituent

fabricated in the shape of [above-mentioned] a sheet first as the attachment approach or the construction approach, the approach of irradiating light, such as ultraviolet rays, on the above-mentioned conditions, and sticking on another adherend after that is mentioned.

[0035] In the photoresist adhesives constituent of this invention, since cohesive force mixes and uses this for solid photopolymerization nature resin (B) at a predetermined rate using low liquefied photopolymerization nature resin (A), it can be made a moderate state of aggregation. Therefore, the good wettability and the initial adhesive property to adherend can be acquired.

[0036]

[Embodiment of the Invention]

It mixed by the blending ratio of coal which shows the liquefied photopolymerization nature resin shown in example 1 table 1, solid photopolymerization nature resin, and a polymerization initiator in Table 1. After heating this mixed constituent at 150 degrees C and fully stirring it, it applied to the polyethylene terephthalate film with a thickness of 100 micrometers, and the sheet of a photoresist adhesives constituent with a thickness of 300 micrometers was obtained. Moreover, it is the above-mentioned mixed constituent at the thickness of 250 micrometers Basis-weight 300 g/cm² It sank into glass fabrics and the sheet of the photoresist adhesives constituent of glass-fabrics sinking [with a thickness of 300 micrometers] in was obtained.

[0037]

[Table 1]

< 実施例 1 >

| | | 種 類 | 商 品 名 | 物 性 等 | 重 量 部 数 |
|-------|----|----------------------|-----------------------------|----------------------------|---------|
| 樹脂組成物 | 液状 | ビスフェノール A系エポキシ樹脂 | 旭電化社製 アデカレジ EP-4100 | 粘度 約12000 ~ 15000cps | 100 |
| | 固形 | ノボラック系エポキシ樹脂 | 東都化成社製 エポトート YDCN-701 | 軟化点 60~70℃ | 200 |
| 重合開始剤 | | 6フッ化アンチモン系芳香族スルホニウム塩 | 旭電化社製 アデカオプトマー SP-170 | | 3.0 |

[0038] It mixed by the blending ratio of coal which shows the liquefied photopolymerization nature resin shown in example 2 table 2; solid photopolymerization nature resin, and a polymerization initiator in Table 2. After heating this mixed constituent at 150 degrees C and fully stirring it, it applied to the polyethylene terephthalate film with a thickness of 100 micrometers, and the sheet of a photoresist adhesives constituent with a thickness of 300 micrometers was obtained. Moreover, it is the above-mentioned mixed constituent at the thickness of 250 micrometers Basis-weight 300 g/cm² It sank into glass fabrics and the sheet of the photoresist adhesives constituent of glass-fabrics sinking [with a thickness of 300 micrometers] in was obtained.

[0039]

[Table 2]

< 実施例 2 >

| | 種 類 | 商 品 名 | 物性等 | 重 量 部 数 |
|-------|-----|-------------------------------|--|---------|
| 樹脂組成物 | 液状 | ビスフェノール A 系エポキシ樹脂 8 2 8 | 油化シェル社製 エピコート 粘度 約12000 ~ 15000cps | 1 0 0 |
| | 固形 | ノボラック系 エポキシ樹脂 YDCN-701 | 東都化成社製 エポトート 軟化点 60 ~ 70 °C | 3 0 0 |
| 重合開始剤 | | 6 フッ化アンチ モン系芳香族ス ルホニウム塩 | 旭電化社製 アデカオプトマー SP-170 | 4 . 0 |

[0040] It mixed by the blending ratio of coal which shows the liquefied photopolymerization nature resin, gelling agent, and polymerization initiator which are shown in the example table 3 of a comparison in Table 3. After heating this mixed constituent at 150 degrees C and fully stirring it, it applied to the polyethylene terephthalate film with a thickness of 100 micrometers, and the sheet of a photoresist adhesives constituent with a thickness of 300 micrometers was obtained. Moreover, it is the above-mentioned mixed constituent at the thickness of 250 micrometers Basis-weight 300 g/cm² It sank into glass fabrics and the sheet of the photoresist adhesives constituent of glass-fabrics sinking [with a thickness of 300 micrometers] in was obtained.

[0041]

[Table 3]

< 比較例 >

| | 種 類 | 商 品 名 | 物性等 | 重 量 部 数 |
|------------|------------------------------|-----------------------------|---------------------------|---------|
| 樹脂組成物 : 液状 | ビスフェノール A 系エポキシ樹脂 | 油化シェル社製 エピコート 8 2 8 | 粘度 約12000~ 15000cps | 1 0 0 |
| ゲル化剤 | 5 ~ 7 価の糖アルコールと芳香族アルデヒドとの縮合物 | | | 7 |
| 重合開始剤 | 6 フッ化アンチモン系芳香族スルホニウム塩 | 旭電化社製 アデカオプトマー SP-170 | | 1 . 0 |

[0042] Flattery nature to adherend was evaluated about the sheet of a photoresist adhesives constituent with a thickness [without a glass-fabrics base material] of 300 micrometers obtained in the example of a comparison by the flattery nature above-mentioned example 1 and 2 lists to adherend. As adherend, what stuck the polyethylene terephthalate (PET) film with a width of face [of 5mm] and a thickness of 100 micrometers at intervals of 5mm on the 100mmx100mm transparent glass plate (drawing 1) was used. Drawing 1 (a) shows a top view and drawing 1 (b) shows the side elevation.

[0043] After cutting the sheet of a photoresist adhesives constituent without the glass-fabrics base material of the example of a comparison into 100mmx100mm at the above-mentioned example 1 and 2 lists, a laminating is carried out to the PET film plane of the adherend of drawing 1 , and they are 100 g/cm² still more equally. The rate of adhesion area with the glass plate at the time of adding a load (%) was measured.

[0044] Evaluation adhesive the first stage was performed about the sheet of the

photoresist adhesives constituent of glass-fabrics sinking [of the example of a comparison] into the example 1 and 2 lists of the evaluation above of an initial adhesive property and adhesive strength with the passage of time. The SUS foil (50 micrometers in thickness) of the 20mmx40mm size ground with the sandpaper (**280) as adherend was used.

[0045] After cutting the sheet of the example of a comparison into 20mmx20mm magnitude at the above-mentioned example 1 and 2 lists, as a sheet 2 is stuck on polished surface 1a of the above-mentioned SUS foil 1 as shown in drawing 2 and it is shown in drawing 3 below They are ultraviolet rays with a wavelength of 365nm 25 mW/cm² It irradiated for 2 minutes by reinforcement, and polished surface 3a of the above-mentioned SUS foil 3 of one more sheet was stuck so that it might be shown subsequently to drawing 4 , and the test piece for T exfoliation was obtained by carrying out 2 ****s of 2kg sticking-by-pressure rollers the rate for 300mm/.

[0046] Then, after leaving it in 23 degrees C and the air conditioned room of 65%RH for 20 minutes, T friction test was performed the rate for 200mm/using the tension tester, and that maximum load was made into initial adhesive strength.

[0047] Moreover, after leaving it in 23 degrees C and the air conditioned room of 65%RH for 48 hours, T friction test was performed similarly and the maximum load was made into adhesive strength with the passage of time.

[0048]

[Table 4]

| | 単 位 | 実施例 1 | 実施例 2 | 比較例 |
|----------|------------|---------|---------|---------|
| 被着体への追従性 | % | 8 8 | 9 4 | 6 1 |
| 初期接着力 | k g / 20mm | 0 . 9 5 | 1 . 0 6 | 0 . 3 7 |
| 経時接着力 | k g / 20mm | 2 2 . 9 | 2 1 . 6 | 1 0 . 9 |

[0049] It turns out that the sheet of the photoresist adhesives constituent of the examples 1 and 2 according to this invention is excellent in the flattery nature, the initial adhesive strength, and the adhesive strength with the passage of time to adherend compared with the sheet of the photoresist adhesives constituent of the example of a comparison so that clearly from Table 4.

[0050]

[Effect of the Invention] The configuration of the photoresist adhesives constituent of this invention is as above-mentioned, and the photo-curing object has moderate cohesive force, therefore has the good wettability and the initial adhesive property to adherend. Therefore, the photoresist adhesives constituent of this invention can be used as the sheet of the photoresist adhesives constituent which has the wettability to good adherend while it has good handling nature.

[0051] Moreover, when the cationic polymerization nature machine of one [at least] resin of liquefied photopolymerization nature resin or the solid photopolymerization nature resin considers as an optical cationic polymerization nature epoxy group, the adhesive strength of a photoresist adhesives constituent with the passage of time can be raised further.